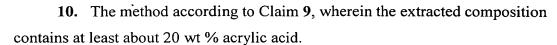


## What is claimed is:

- 1. A method of recovering acrylic acid from a mixture comprising acrylic acid, water and acetic acid comprising:
- (a) extracting acrylic acid from said mixture with a solvent mixture comprising ethyl acrylate as the preponderant component thereof and an organic co-solvent selected from the group consisting of toluene, heptane, 1heptene, methylcyclohexane, cycloheptane, cycloheptadiene, cycloheptatriene, 2,4-dimethyl-1,3 pentadiene, methylcyclohexene and methylenecyclohexene to form an extracted composition; and
- (b) azeotropically distilling said extracted composition to recover acrylic acid.
- 2. The method according to Claim 1, wherein said steps of extracting acrylic acid and azeotropically distilling the extracted composition are carried out in a continuous process to form a residue stream the preponderant component of which is acrylic acid.
- 3. The method according to Claim 2, wherein said residue stream is composed of at least 98 weight percent (wt %) acrylic acid.
- 4. The method according to Claim 3, wherein said residue stream is composed of at least 99% acetic acid.
- 5. The method according to Claim 2, wherein said residue stream contains less than about 0.75 wt % acetic acid.
- 6. The method according to Claim 5, wherein said residue stream contains less than about 0.5 wt % acetic acid.
- 7. The method according to Claim 2, wherein said residue stream contains less than about 0.5 wt % water.
- 8. The method according to Claim 7, wherein said residue stream contains less than about 0.1 wt % water.
- 9. The method according to Claim 1, wherein the extracted composition comprises at least about 50 wt % ethyl acrylate.



- 11. The method according to Claim 1, wherein said organic co-solvent is toluene.
- 12. The method according to Claim 1, wherein the weight ratio of ethyl acrylate to said organic co-solvent in said solvent mixture is from about 80:20 to about 95:5.
- 13. The method according to Claim 12, wherein the weight ratio of ethyl acrylate to said organic co-solvent in said solvent mixture is from about 85:15 to about 95:5.
- 14. The method according to Claim 13, wherein said organic co-solvent is toluene.
- 15. The method according to Claim 1, wherein said process is operative to remove at least about 75 wt % of the acetic acid present in the mixture of acrylic acid, water and acetic acid undergoing purification.
- 16. The method according to Claim 15, wherein said process is operative to remove at least about 80 wt % of the acetic acid present in the mixture of acrylic acid, water and acetic acid undergoing purification.
  - 17. A method of recovering acrylic acid comprising:
- (a) providing a feed stream containing acrylic acid, water, acetic acid, ethyl acrylate and an organic co-solvent selected from the group consisting of toluene, heptane, 1-heptene, methylcyclohexane, cycloheptane, cycloheptadiene, cycloheptatriene, 2,4-dimethyl-1,3 pentadiene, methylcyclohexene and methylenecyclohexene to a distillation column, wherein the weight ratio of ethyl acrylate to said organic co-solvent is from about 80:20 to about 95:5; and
- (b) azeotropically distilling said feed stream to provide a residue stream, the preponderant component of which is acrylic acid.
- 18. The method according to Claim 17, wherein said residue stream contains at least about 98 wt % acrylic acid.



- 19. The method according to Claim 18, wherein said residue stream contains at least about 99 wt % acrylic acid.
- 20. The method according to Claim 17, wherein said feed stream contains from about 5 to about 40 wt % water, from about 1 to about 4 wt % acetic acid and up to about 80 wt % acrylic acid.
- **21.** The method according to Claim **20**, wherein said residue stream contains less than about 0.75 wt % acetic acid.
- 22. The method according to Claim 21, wherein said residue stream contains less than about 0.5 wt % acetic acid.
- 23. The method according to Claim 20, wherein said residue stream contains less than about 0.5 wt % water.
- **24.** The method according to Claim **23**, wherein said residue stream contains less than about 0.1 wt % water.
- 25. The method according to Claim 17, wherein said organic co-solvent is toluene.
- 26. The method according to Claim 25, wherein the weight ratio of ethyl acrylate to toluene in said feed stream is from about 85:15 to about 95:5.
- 27. The method according to Claim 17, wherein said process is operative to remove at least about 75 wt % of the acetic acid present in the feed stream undergoing purification.
- 28. The method according to Claim 27, wherein said process is operative to remove at least about 80 wt % of the acetic acid present in said feed stream.
- 29. The method according to Claim 17, wherein said azeotropic distillation is carried out with a temperature of about 100°C about the lower portion of said distillation column.
- **30.** The method according to Claim **29**, wherein the temperature about the central portion of said distillation column is maintained at a temperature of about 60°C when azeotropically distilling said feed stream.